

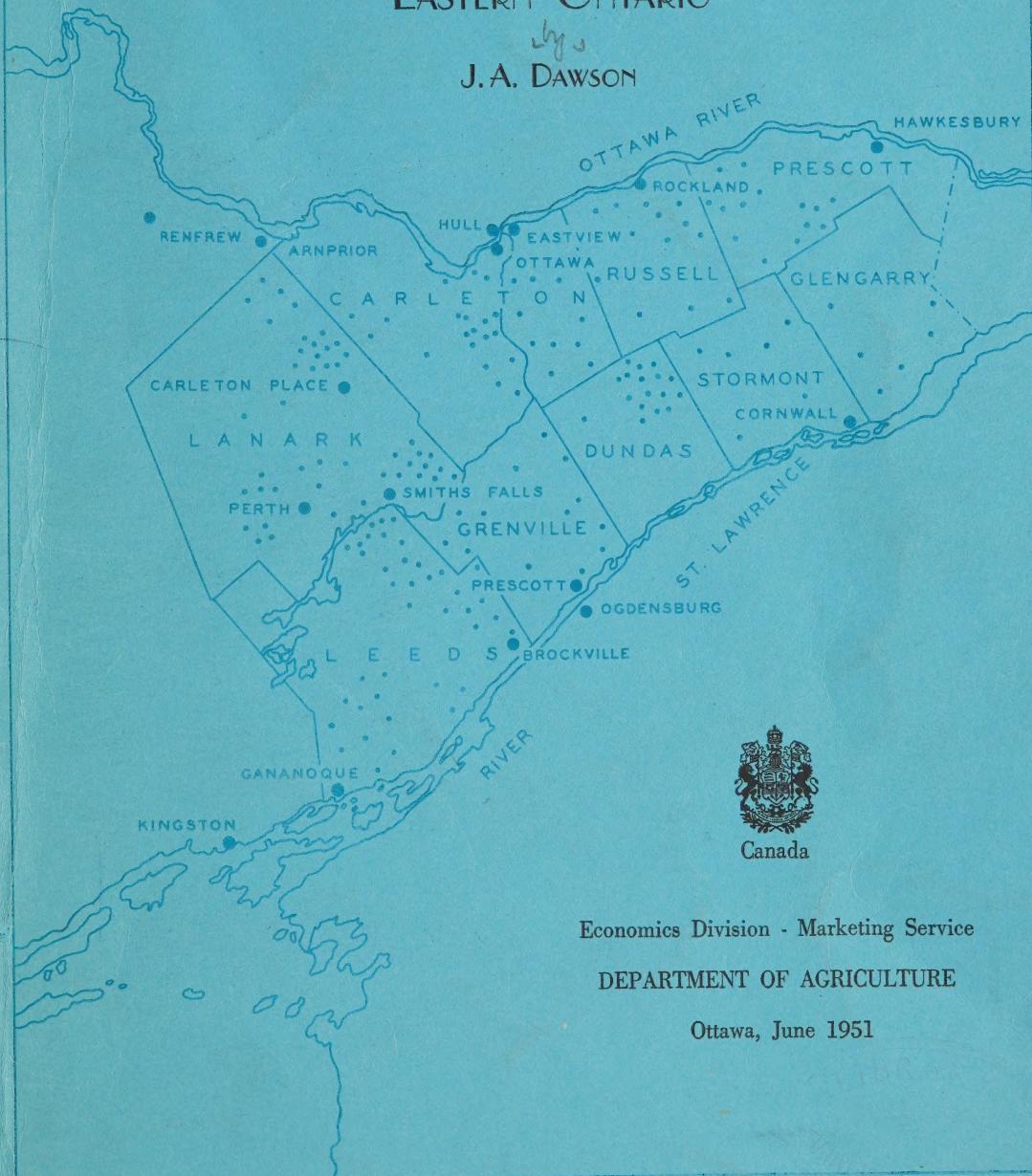
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THE DAIRY FARM BUSINESS IN EASTERN ONTARIO

by
J. A. DAWSON



Canada

Economics Division - Marketing Service

DEPARTMENT OF AGRICULTURE

Ottawa, June 1951

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IN
EASTERN ONTARIO

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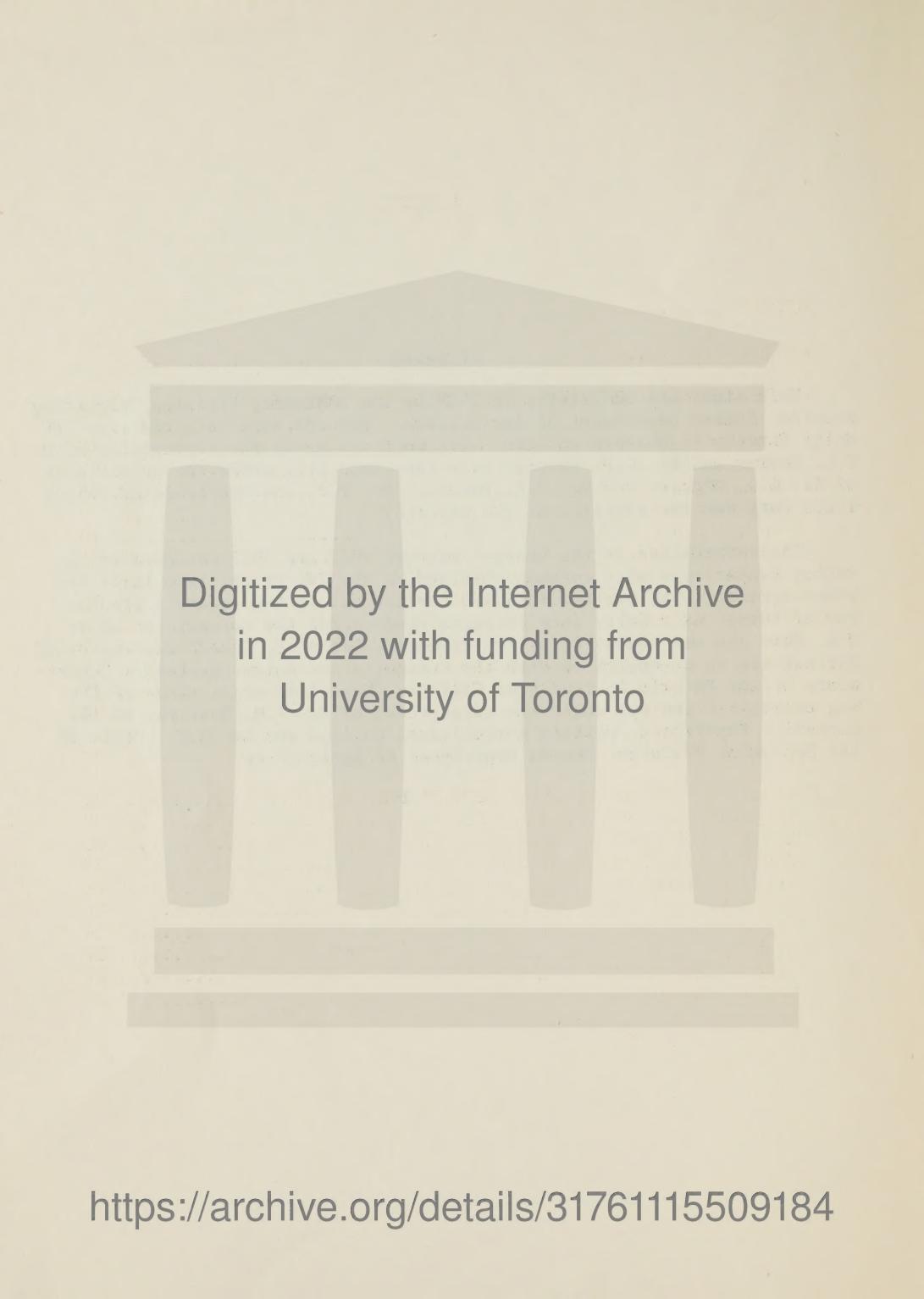
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Foreword

This study was undertaken in 1948 by the Economics Division, Marketing Service, Canada Department of Agriculture. Records were obtained from 185 dairy farmers in Eastern Ontario. The work was under the supervision of Dr. S.C. Hudson and Mr. G.P. Boucher with the field work under the supervision of Mr. G.A. O'Brien and Mr. J.A. Dawson. Mr. D.J. Packman assisted in the field work and the analysis of the material.

The information on the changes between 1937 and 1947 was obtained by making comparisons with records obtained on the 142 of the same farms ten years earlier. The earlier work was carried out in two separate studies. One of these was a dairy farm business study under the supervision of Mr. H.R. Hare and was conducted by the Economics Division, Canada Department of Agriculture in co-operation with the Economics and Animal Husbandry Departments of the Ontario Agricultural College. The other was a study of the hog enterprise and was under the supervision of Mr. F.H. Gorsline of the Economics Department, Ontario Agricultural College and Mr. H.K. Leckie of the Economics Division, Canada Department of Agriculture.



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SUMMARY

Records were obtained from 185 dairy farmers in the nine most eastern counties of Ontario and grouped according to the type of milk market patronized. Of these farmers, 46 shipped mostly to fluid milk markets, 57 to condenseries and 82 to cheese factories and creameries.

The farms averaged 205 acres, of which 85 were in crops and 23 in rotation pasture. The fluid milk farms averaged 225 acres, of which 102 were in crops and 26 in rotation pasture. On a typical fluid milk farm of this acreage the following livestock were kept: three horses, 24 cows, 19 heifers and calves, one bull, two sows, 18 hogs sold during the year, 75 hens and 125 chickens. This would be about 41 animal units. The other two groups, each of which had an average of 30 animal units, kept fewer cattle but about the same number of other livestock.

The total capital investment averaged \$18,964 for the 185 farms. This was made up as follows: 55 per cent in land and buildings, 28 per cent in livestock and 16 per cent in machinery and equipment.

Cash receipts averaged \$5,315 per farm and were accounted for by the following: 55 per cent from the sale of livestock products; 36 per cent from the sale of livestock; five per cent from the sale of crops and the remaining four per cent from a large number of smaller items such as machine work and the sale of wood, lumber and maple syrup.

Current expenses averaged \$3,566 per farm. Feed purchases accounted for 40 per cent and hired labour, plus the value of board and the value of unpaid labour, accounted for another 25 per cent. Other sizeable items were taxes, fertilizer, repairs to machinery, buildings, fences and drains, the cost of operating tractors, trucks and automobiles and the cost of hired machine work.

Capital expenses averaged \$1,203 per farm and were accounted for as follows: 46 per cent for livestock purchases; 35 per cent for machinery and equipment purchases and 19 per cent for new buildings, land and improvements.

Farm income, the difference between total receipts and total expenses, averaged \$1,210. After deducting \$754 for interest on investment and adding \$609 for farm-produced goods and services, the earnings of the operator averaged \$1,065. The earnings averaged highest on the fluid milk farms, next highest on the condensery farms and lowest on the cheese and cream farms.

The labour earnings of the operator varied widely between farms; the range for all the farms was from minus \$4,490 to plus \$9,196, a spread of \$13,686. Farmers receiving higher-than-average earnings had the following:

- (1) A large enough size of business to enable the various phases of farming to be carried on with a reasonable degree of efficiency.

- (2) Good crop yields.
- (3) High milk production per cow.
- (4) Efficient use of labour.
- (5) Capital used where most profitable.

Overall efficiency can best be attained by a well-developed farm plan. Such a plan should provide for the best use of the land; this will result in good crop yields. The size of the livestock enterprise should be sufficient to make good use of the roughage grown. By keeping a large number of livestock there can be an adequate size of business even when the acreage in crops is limited and an adequate size of business will enable the effective use of capital and labour. These are all factors which will result in increased earnings.

Of the 185 farms for which records were obtained in 1947, 142 were also visited in 1937. The average acreage of these 142 farms increased from 190 in 1937 to 202 in 1947 with most of the increase occurring in non-tillable land. The acreage in crops was about the same in the two years and that in rotation pasture decreased slightly. In the acreage cropped there was a shift from small grains to hay.

The livestock enterprise was slightly smaller in 1947, with most of the reduction taking place because fewer of the farmers kept sheep, swine and fur animals. The main enterprise, dairying, was of about the same importance on these farms in each of the two years. However, in 1947 more calves that were not needed for herd replacements were being kept to sell at a producing age.

The investment in real estate increased from an average of \$40 to \$53 per acre, and that in livestock and equipment more than doubled, with the result that there was a 70 per cent increase in the total investment.

The receipts increased 141 per cent, and total expenses increased 174 per cent. As a result farm income was only 56 per cent higher. After deducting interest on the capital invested and adding the value of farm-produced goods and services, the earnings of the operator were 64 per cent higher in 1947.

As a result of shifts in the cropping system and a slightly smaller livestock enterprise, the size of business was somewhat smaller in 1947. The amount of labour used decreased from 2.2 to 1.9 man years and the amount of work per man increased slightly. However, these farms were more highly mechanized in 1947 as is evidenced by a doubling in the number of tractors and milking machines. While the increase in the number of tractors was accompanied by some decrease in the number of horses kept, from a purely financial point of view there is some doubt as to whether this increased mechanization was entirely justified. However, there is no doubt that the increase improved working conditions and enabled farmers to work shorter hours.



Cheese Factories Such as This Are Located Throughout Eastern Ontario.



Drainage Is the Most Important Problem on the More Productive Soils of the Area.

INTRODUCTION

Farmers and others interested in farming benefit by periodically taking a fresh look at the farms in an area and giving consideration to changes that have been and are taking place. This study of dairy farms in Eastern Ontario provides the information necessary for such an examination. The results presented here are based on data provided by 185 farm operators, all of whom derived a sizeable proportion of their income from sales of dairy products. From these records, information has been obtained on the organization of farms in the area during 1947 and on the factors which resulted in some farmers making higher incomes than others.

Of these 185 farms, 142 were visited ten years previously, at which time similar records were acquired covering the farm business during 1937. A comparison of the same 142 farms in the two years enables a study of the changes that have taken place and consideration of their main causes.

For the earlier year, the financial information is for the 12 months ending April 30, 1938 and for the later year, the 12 months ending May 31, 1948.

The 185 farms visited are located in the nine most easterly counties of Ontario. They are the following (the number of records obtained in each county is shown in brackets): Carleton (30), Dundas (17), Glengarry (6) Grenville (13), Lanark (45), Leeds (40), Prescott (14), Russell (13) and Stormont (7).

According to the 1941 Census, 40 per cent of the farm revenue in this area was derived from the sale of dairy products, 11 per cent from the sale of cattle, 11 per cent from the sale of hogs, eight per cent from that of eggs and poultry and the remainder from a variety of sources. Two-thirds of the farms in the nine counties were classified as either dairy or mixed farms.

The development of mixed farming in eastern Ontario with dairying as the most important enterprise is related to climatic and soil factors and also to economic forces. This area has a wide variation in soils and a medium length of growing season with average annual rainfall of about 34 inches. The length of the growing season places limitations on the crops that can be grown and this, along with soils that must be used to a considerable extent for hay and pasture, makes the area favorable for livestock production.

The topography is such that most of the land is level enough for cultivation. However, a considerable area is not suitable for crops and can be most effectively used for pasture or woodland. About one-half of the land is of this type. Most of the remainder is suitable for cropping but must be farmed with care, and manuring is important. In some cases the land will respond well to commercial fertilizers; lime is needed on the more acid soils. Probably the most important problem on the more productive soils is drainage. Exceptionally good crops are obtained on the clay loam which is found in Dundas, Carleton and Glengarry counties, providing there is adequate drainage.

The cities of Ottawa, Montreal and Cornwall provide a considerable market for milk for fluid consumption. Also there are factories for the production of cheese, butter and other manufactured milk products located throughout the area. These available markets for dairy products provide the economic basis for dairying which is the most important phase of farming in eastern Ontario.

THE ORGANIZATION OF DAIRY FARMS IN EASTERN ONTARIO

In studying the farm business records for 1947 the farms were grouped according to the principal market outlet for their milk. Of the 185 farms, 46 shipped mostly to fluid milk markets, 57 to condenseries and 82 to cheese factories and creameries. About half of the fluid shippers were in Carleton county and the remainder were scattered through the other counties. The condensery shippers were all located in Dundas, Grenville, Lanark and Leeds counties. Those shipping to cheese factories and creameries were located in all of the nine counties and included most of the farms visited in Prescott and Russell counties.

Land Use. - The average acreage of all the farms visited was 205 acres. The fluid milk farms averaged 225 acres; the condensery farms, 222 acres; and the cheese and cream farms, 181 acres. For the whole group, the acreage in crops averaged 85 acres and that in rotation pasture, 23 acres. The remainder of the total acreage was made up of permanent pasture, woods, waste land, yards, roads and fences. In Table 1, a comparison of the land use on the three groups of farms is presented.

Table 1.- Land Use on Fluid Milk, Condensery and Cheese and Cream Farms, Eastern Ontario, 1947.

	Average	Average	Average	Average
	46 Fluid Milk Farms	57 Condensery Farms	82 Cheese and Cream Farms	185 Farms
- acres -				
Acreage in Crops	102	80	78	85
Rotation Pasture	26	25	21	23
Other Pasture	66	68	45	58
Woods not pastured	14	25	19	19
Waste land, yards, roads and fences	17	24	18	20
Total	225	222	181	205

Hay and fodder crops were grown on 57 per cent of the land in crops and averaged 48 acres per farm. Another 29 per cent of the cropland was occupied by small grains which averaged 25 acres per farm. Of this acreage in small grains, over half was in oats; mixed grains were the next in importance. Silage corn was grown on an average of six acres per farm; this was seven per cent of the land in crops. The remainder of the acreage in crops, amounting to seven per cent of the total, included field beans and peas, grain corn, potatoes, vegetables, flax, cover crops and bare summer fallow.

On each of the three groups of farms, the main crops accounted for about the same proportion of the cropland except that in the case of fluid milk farms the proportion in corn silage was slightly higher, and that in hay and small

grains slightly lower. As most of the crops grown were used for feeding on the farm, only small acreages of cash crops were grown and crop sales on most farms were a very small proportion of total sales. In Table 2, the acreages of the various crops for each group of farms are given.

Table 2.- Average Acreages of Crops Grown on Fluid Milk, Condensery, and Cheese and Cream Farms, Eastern Ontario, 1947.

Crop	46 Fluid	57 Condensery	82 Cheese	185
	Milk Farms	Farms	and Cream	Farms
- acres -				
Small Grains	28	24	24	25
Hay and Fodder	55	46	45	48
Corn Silage	10	6	4	6
Other	9	4	5	6
Total crops	102	80	78	85

Livestock.— On all the farms visited livestock production was an important part of the farm business. The importance of livestock can best be measured by expressing all livestock in terms of animal units. An animal unit represents an average mature horse or cow or the equivalent in other livestock based on feed consumption and manure production. The average number of animal units for all farms was 33; for the fluid milk group, 41; and for the condensery and cheese and cream groups, 30 each. There was an average of 3.3 acres of cropland and rotation pasture for each animal unit for the entire sample. The fluid milk farms with 3.1 acres per animal unit, had the most intensive livestock programs but there was not a great deal of difference between the three groups. The condensery shippers had an average of 3.5 acres of cropland and rotation pasture per animal unit, and the average for the cheese and cream group was 3.3. There was, however, a great variation in the intensity of the livestock enterprise on the individual farms.

On a fluid milk farm with a total acreage of 225 acres, of which 102 are in crops, 26 in rotation pasture and 49 in permanent pasture, the following livestock program would be fairly typical: three horses, 24 cows, 19 heifers and calves, one bull, two sows, 18 hogs sold during a year, 75 hens and 125 chickens. This would be about 41 animal units. The other two groups, each with an average of 30 animal units, had fewer cattle but about the same numbers of other livestock.

Cattle, most of which were raised for dairy purposes, made up the largest part of the livestock on the farms visited. On the basis of animal units, they accounted for 80 per cent of the total livestock; on the fluid milk farms the proportion was 85 per cent; on the condensery farms, 79 per cent; and on the cheese and cream farms, 76 per cent. There was an average of 17 cows per farm on the 185 farms visited. On the fluid milk farms there was

a larger proportion of cows to other cattle than for the other two groups. For this group there was an average of 24 cows per farm. In the condensery group the average was 15 and in the cheese and cream group, 14. Practically all of the farmers in the manufactured milk and cheese and cream groups raised all their own cows. This was also the common practice in the fluid milk group with 32 of the 46 fluid milk shippers raising all or most of their cows. However, there were four of the remaining 14 who bought practically all of their herd replacements. These four were all located close to the city of Ottawa.

About three-quarters of all the herds were Holstein and the remainder were Ayrshire, Jersey, Shorthorn or a mixture of several breeds. One-third of the herds were mostly purebred and practically all of these were Holstein. The proportion of purebred herds was highest for the fluid group and lowest for the cheese and cream group; however, the difference between groups in this respect was slight.

The average milk production per cow was 5,840 pounds; the average for the fluid milk group was 6,650; that for the condensery group was 5,750, and for the cheese and cream group, 5,380 pounds.

All of the farms visited had horses. Of the 185 farms, 118 had tractors and, of these, nine had two tractors. There was no difference in the average number of horses kept on farms having one tractor and those having only horses. However, the average acreage cropped was only 63 on the farms without a tractor and 92 acres on the farms with one tractor. In each of these two groups there was an average of three horses. The nine farms with two tractors had an average of 153 cropped acres and most of these farms kept just two horses. Very few of the 185 farmers raised any colts.

Hogs, poultry, sheep and bees, in that order of importance, made up the remainder of the livestock enterprise. For all the farms, an average number of hogs sold was 13. The fluid milk group sold 13 hogs per farm, the condensery group, eight and the cheese and cream group, 18. The proportion of the cheese and cream group that sold hogs was 84 per cent, while only 46 per cent of the fluid milk farms sold hogs. However, the fluid milk farms that did sell hogs, sold 28 per farm compared with 21 on the cheese and cream farms. Forty-seven per cent of the condensery farms sold an average of 17 hogs per farm.

Practically all of the farms visited kept some poultry. However, on over half the farms less than 50 hens were kept. The average number of hens on all farms was 77. The fluid milk group kept an average of 72; the condensery group kept 99 and the cheese and cream group, 58. Few farms in this latter group had more than 100 hens. In addition, there were chicks and a small number of turkeys, ducks and geese.

Two-thirds of those raising poultry purchased replacements for their flocks during the year and, of these, about three-quarters bought chicks while the **others** bought mature layers.

Sheep were kept on only 15 per cent of the farms visited and only two of these were fluid milk farms. A few farmers, mainly in the cheese and cream group, kept bees.

The average number of animal units of each class of livestock is presented in Table 3 for each of the three groups of farms. In Table 4, the number of farms representing each of the different classes of livestock is shown.

Table 3.- Livestock Program on Fluid Milk, Condensery, and Cheese and Cream Farms, Eastern Ontario, 1947.

Class of Livestock	Average 46 Fluid Milk Farms	Average 57 : Condensery Farms	Average 82 Cheese and Cream Farms	Average 185 Farms
- number of animal units -				
Horses	3.0	3.0	3.4	3.2
Cattle	34.6	23.9	22.6	26.0
Sheep and Lambs	.1	.5	.3	.3
Swine	1.6	1.1	2.4	1.8
Poultry	1.4	1.6	1.1	1.3
All Livestock	40.7	30.1	29.8	32.6

Table 4.- Numbers of Fluid Milk, Condensery, and Cheese and Cream Farms Reporting Different Classes of Livestock, Eastern Ontario, 1947.

Class of Livestock	Number Reporting			
	Fluid Milk Farms	Condensery Farms	Cheese and Cream Farms	All Farms
Number of Farms	46	57	82	185
Horses	46	57	82	185
Cattle	46	57	82	185
Sheep and Lambs	2	12	14	28
Swine	23	34	73	130
Poultry	43	53	78	174

Farm Capital.— The total capital investment averaged \$18,964 for the 185 farms. It averaged \$26,528 for the fluid milk group, \$17,003 for the condensery group and \$16,084 for the cheese and cream farms. Information concerning the value of each of the main categories of investment is presented in Table 5.

Real estate averaged 55 per cent of the total investment for all the farms; there was relatively little variation between the three groups, the lowest being the condensery farms with 52 per cent and the highest being the cheese and cream farms with 57 per cent. The value of real estate per acre averaged \$51 for all farms, with the fluid milk group averaging \$65 per acre, the condensery group, \$40, and the cheese and cream group, \$50.

Table 5.- Average Values of Inventory Items on Fluid Milk, Condensery, and Cheese and Cream Farms, Eastern Ontario, 1947.

	46 Fluid Milk Farms	57 Condensery Farms	82 Cheese and Cream Farms	185 Farms
- dollars -				
Total Real Estate	14,547	8,824	9,113	10,375
Livestock	7,040	5,084	4,389	5,263
Equipment	4,625	2,838	2,367	3,073
Feed and Supplies	316	257	215	253
Total Investment	26,528	17,003	16,084	18,964

Livestock represented 28 per cent of the total capital for the 185 farms; the average was 27 per cent on the fluid milk and cheese and cream farms and 30 per cent on the condensery farms. Investment in machinery and equipment averaged 16 per cent of the total with little variation between the groups. Feed and supplies accounted for the remaining one per cent of the total investment; however, the records were obtained at a time when this would be at a minimum for the year.

The composition of total investment was fairly consistent throughout the three groups. Thus, the fluid milk group, which had the greatest total investment per farm, also had a larger investment in real estate, livestock, machinery and equipment and feed and supplies than the other two groups.

Cash Receipts.— Total cash receipts on the 185 farms averaged \$5,315. The average for the fluid milk group was \$8,137 compared with \$4,981 for the condensery group and \$3,965 for the cheese and cream group. The sources of these cash receipts for each of the groups are shown in Table 6.

Table 6.- Average Cash Receipts per Farm on Fluid Milk, Condensery, and Cheese and Cream Farms, Eastern Ontario, 1947.

	46 Fluid Milk Farms	57 Condensery Farms	82 Cheese and Cream Farms	185 Farms
- dollars -				
Crop Sales	413	173	246	265
Livestock Sales	2,137	2,072	1,678	1,913
Livestock Product Sales	5,376	2,517	1,854	2,934
Miscellaneous Farm Receipts	147	183	142	156
Equipment Sales	64	36	45	47
Total Cash Receipts	8,137	4,981	3,965	5,315

The largest item in cash receipts was the sale of livestock products which averaged \$2,934 for all the farms; this was 55 per cent of total cash receipts. Sales of livestock products made up 66 per cent of cash receipts for the fluid milk farms, 51 per cent for the condensery farms and 47 per cent of the total for the cheese and cream farms. All of the farms sold dairy products and the average receipts from this source were \$2,565, or 87 per cent of the total sales of livestock products. The proportion was about 90 per cent for the fluid milk and cheese and cream groups and 79 per cent for the condensery group. Most of the remainder of the receipts from the sale of livestock products came from the sale of eggs, which averaged \$344 for all the farms. Eggs accounted for about nine per cent of the total livestock product sales in the fluid milk and cheese and cream groups and 21 per cent in the condensery group. Eggs were sold on 148 of the 185 farms.

Livestock sales averaged \$1,913 or 36 per cent of the total cash receipts. All but one of the farms sold livestock. Crop sales, which averaged \$265 per farm, accounted for five per cent of the cash receipts. Most of the farms visited had practically no crop sales, and the greatest part of the crop receipts were accounted for by a small number of farms which received a considerable amount from the sale of registered barley or oats seed, apples or potatoes. There were 120 farms which received less than \$100 from the sale of crops and, of the remaining 65, only 18 received more than \$500 from this source.

The remainder of the cash receipts amounted to four per cent of the total and came from the sale of machinery and other miscellaneous items such as receipts from work off the farm and the sale of wood, lumber and maple syrup.

Current Expenses. - Included in current expenses are the cost of hired labour, the value of the board of hired labour, the value of unpaid labour besides that of the operator and all items of cash expenditure other than additions to capital investment or payments on borrowed capital.

Current expenses averaged \$3,566 on all the farms visited. They averaged \$5,488 on the fluid milk farms and \$2,678 on the cheese and cream farms. Information on the main items that are included in current expenses is provided in Table 7.

Table 7.- Average of Items Included in Current Expenses for Fluid Milk, Condensery, and Cheese and Cream Farms, Eastern Ontario, 1947.

	: 46 Fluid Milk Farms:	: 57 Condensery Farms	: 82 Cheese and Cream Farms	: 185 Farms
	- dollars -			
Purchased Feeds	2,326	1,370	1,053	1,467
Labour	1,395	783	675	887
Taxes	203	168	164	175
Fertilizer	85	34	29	45
Tractor Operating Expenses	157	94	69	99
Truck Operating Expenses	75	41	19	39
Farm Share of Auto Expenses	138	82	82	96
Machinery and Equipment Repairs	200	124	108	136
Repairs to Buildings	65	49	73	63
Repairs to Fences, drains, etc.	48	42	31	39
Hired Machine Work	50	41	56	50
Other Current Expenses	746	466	319	470
Total Current Expenses	5,488	3,294	2,678	3,566

About 40 per cent of the total current expenses in each group was for feed purchases. Expenditures for feed were influenced by the fact that grain crops were poor in 1947 throughout much of the area visited. However, the importance of livestock on these farms makes it necessary to have fairly large expenditures for feed purchases in any year.

The labour cost, which includes the cost of hired labour plus the value of board of this hired labour and the value of unpaid labour, was next in importance. This averaged about 25 per cent of the total current expenses for each of the groups. Of this labour cost, 40 per cent was actual cash outlay for hired labour.

Feed and labour together made up two-thirds of the total current expenses. The other sizeable items were taxes, fertilizer, repairs to machinery, buildings, fences and drains, the cost of operating tractors, trucks and the cost of hired machine work. Fertilizer was purchased by 100 of the farmers; all had machinery repairs to pay for and 153 of the 185 operators hired machine work during the year. Tractor operating expenses averaged \$162 on the 113 farms which had tractors. Operating expenses per truck averaged \$203 on the 36 farms with trucks, and the farm share of the automobile operating expenses on the 159 farms with cars averaged \$112. These operating expenses include gasoline, oil, license, insurance and tires but do not include the cost of repairs or depreciation.

Capital Expenses.— Total capital expenses averaged \$1,203 per farm. Included in this are livestock purchases, new machinery and equipment, new buildings, land and improvements. The fluid milk farms, which had the largest cash receipts and current expenses, also had the largest capital expenses. For this group the average was \$1,652 as compared with \$1,464 for the condensery group and \$769 for the cheese and cream group. The amounts of the various categories of capital expenses for each group of farms are shown in Table 8.

Table 8.— Average Capital Expenses per Farm on Fluid Milk, Condensery, and Cheese and Cream Farms, Eastern Ontario, 1947.

	46 Fluid Milk Farms	57 Condensery Farms	82 Cheese and Cream Farms	185 Farms
— dollars —				
Livestock Purchases	800	847	216	556
Machinery and Equipment Purchases	573	403	343	419
New Buildings, Land and Improvements	279	214	210	228
Total Capital Expenses	1,652	1,464	769	1,203

Purchases of livestock accounted for 46 per cent of the capital expenses for the 185 farms; the proportion was 48 per cent of the total for the fluid milk farms, 58 per cent for the condensery farms and 28 per cent for the cheese and cream farms. In all, 164 of the farms bought livestock.

Machinery and equipment purchases varied from 28 per cent of capital expenses for the condensery farms to 45 per cent for the cheese and cream farms. The proportion was 35 per cent for the fluid milk farms; this was also the average proportion for all the farms. The largest items in the machinery and equipment purchases were: tractors (30 per cent of the total); harvesting machinery (25 per cent); tillage machinery (10 per cent); and the farm share of automobile purchases (10 per cent). The remaining 25 per cent included purchases of dairy, poultry and hog equipment, wagons, motors and trucks.

The remaining 19 per cent of the total capital expenses included new buildings, land and improvements. A small proportion of this cost was for the purchase of land or land improvements but a large number of the farms visited had fairly large expenses for the installation of electricity in farm buildings and the house and for other improvements to buildings.

Financial Summary.— In the sections on Cash Receipts, Current Expenses and Capital Expenses, detailed information is provided on the relative importance of various items of receipts and expenses. Information on the earnings on each group of farms and the relation of receipts to expenses is presented in Table 9. Farm Income, which is the difference between total receipts and total expenses, taking account of inventory changes but excluding the value of farm products consumed in the home, averaged \$1,065 for all farms. The farm income averaged \$1,777 for the fluid milk farms, \$1,060 for the condensery farms and \$997 for the cheese and cream farms. Of the latter two groups, the condensery shippers had a larger business on the average and receipts were greater than on the cheese and cream farms. However, expenses on the condensery farms were also considerably greater, with the result that there was a difference of less than \$100 in average farm income between the two groups.

Operator's labour and management earnings measure the returns to the operator for his labour and management and are obtained by deducting from farm income a charge for capital invested in the business and adding the value of farm products used in the home. Operator's labour earnings averaged \$1,413 for the fluid milk farms as compared with \$930 for the condensery farms and \$965 for the cheese and cream farms. This is a better measure of financial returns than farm income because the variation in the capital invested and products supplied for use in the home are taken into account. The difference between the fluid milk farms and the other two groups is not as great as is indicated by farm income; this is mainly because the capital investment was greater for the fluid milk farms and thus there was a greater charge for the capital invested.

The average labour earnings on the 185 farms visited were \$1,065; however, there was a great variation between the lowest and the highest. (Figure 1). This great variation occurred within each of the three groups of farms. The operator's earnings on the fluid milk group ranged from a loss of \$4,490 to a gain of \$7,199; the condensery group from a loss of \$2,328 to a gain of \$3,683; and the cheese and cream group from a loss of \$1,245 to a gain of \$9,196. About half of the 185 farms had earnings ranging from 0 to \$1,500, while 20 per cent of the operators had a loss and the remaining 30 per cent received more than \$1,500 for their labour and management.

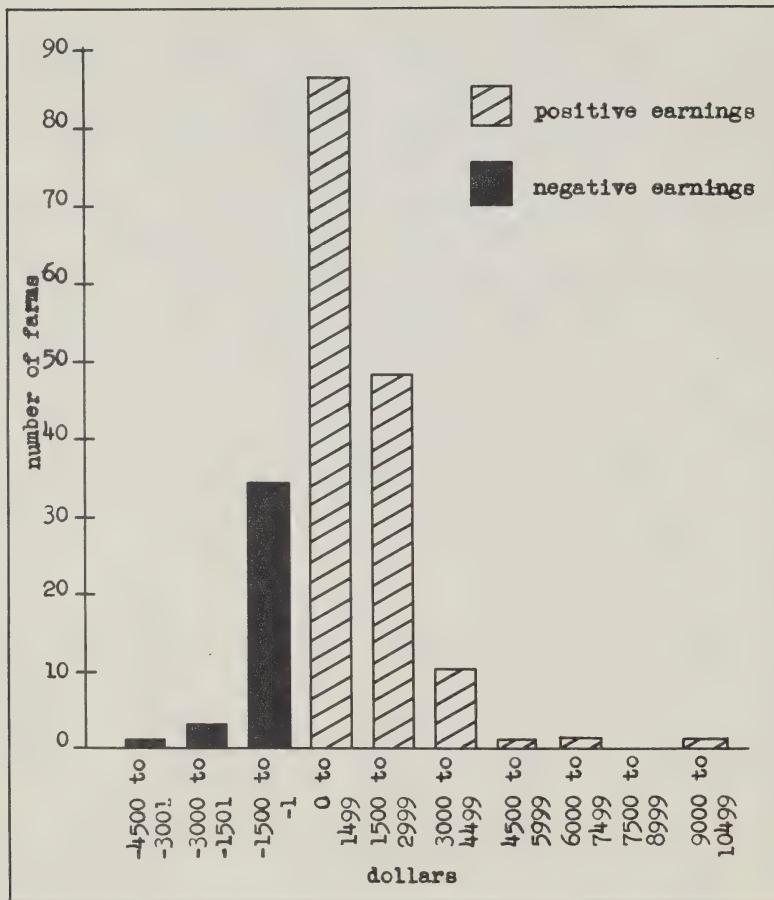


Figure 1. - Distribution of 185 Eastern Ontario Dairy Farms According to Operator's Labour and Management Earnings, 1947.

Table 9.- Financial Summary for Fluid Milk, Condensery, and Cheese and Cream Farms, Eastern Ontario, 1947.

	: Average : 46 Fluid : Milk Farms	: Average : 57 Condensery : Farms	: Average : Cheese and : Cream Farms	82 :Average 185 :Farms
- dollars -				
Total Cash Receipts	8,137	4,981	3,965	5,315
Total Inventory Increase	1,344	1,239	875	1,104
Total Farm Receipts	9,481	6,220	4,841	6,419
Total Current Expenses	5,488	3,294	2,678	3,566
Total Capital Expenses	1,652	1,464	769	1,203
Total Inventory Decrease	564	403	397	440
Total Farm Expenses	7,704	5,161	3,844	5,209
Farm Income	1,777	1,060	997	1,210
Interest Charge (4% of Total investment)	1,061	677	635	754
Labour Income	716	383	362	456
Total Perquisites a/	697	547	602	609
Labour Earnings	1,413	930	965	1,065

a/ This is the value of products from the farm used in the home and includes a charge for the use of the house.

HOW FARMERS OBTAIN HIGHER EARNINGS

The great variation in earnings between individual farms, which was pointed out in the previous section, makes it clear that there are definite possibilities for increased earnings on most farms. On the 185 farms visited, the earnings varied from minus \$4,490 to plus \$9,196. A study of the variation in earnings shows what steps farmers have taken to increase their earnings. If some farmers can obtain higher earnings others can also. Farmers seeking to maintain or increase their incomes must consider those factors which are associated with variations in farm earnings; the experience of successful farmers indicates that the following should be given careful consideration:- (1) size of business; (2) crop yields; (3) rates of livestock production; (4) use of labour; and (5) use of the capital invested in the farm business.

Size of Business.- There are several ways of measuring the size of the farm business. The number of productive man work units per farm, which measures the total amount of productive work performed on the various enterprises in terms of average requirements, is used here.

A productive man work unit is the average amount of work which may be accomplished by a man in a ten-hour day on crops or productive livestock, or both.

As mentioned previously, those shipping to fluid milk markets farmed larger acreages and also had greater numbers of livestock than the other two groups of farmers. Because of this, the size of business per farm, as measured by the total number of productive man work units, was considerably larger. The average for the fluid milk group was 634 productive man work units, while that for the condensery group was 446 and for the cheese and cream group, 434.

In order to provide sufficiently large earnings to support the farm family, the size of the farm business must be large enough to enable the various phases of farming to be carried on with a reasonable degree of efficiency. While it is true that the small farm business will not likely sustain a great loss in any year, there is little possibility of obtaining adequate earnings. Thus, in a fairly good year such as 1947-48, most of the operators who had large farm businesses had considerably greater earnings than those with small businesses (Figure 2).

Knowing that the size of business is important in obtaining adequate earnings, the question comes up as to how to increase the size of business. The two main components of size of business on most farms are the amounts of crops grown and the livestock kept. Thus, the size of business can be increased by adding more crops or more livestock. In Table 10 it may be observed that among the 185 farms studied the larger sizes of business were obtained by farmers who had the largest acreages in crops and the most livestock.

Table 10.- Relation of Size of Business to Labour Earnings and Factors Influencing Size of Business on 185 Dairy Farms in Eastern Ontario, 1947.

Size of Business P.M.W.U.	: Number of Farms		: Average Number of P.M.W.U. in Crops		: Average Number of Animal Units		: Average Labour Earnings							
	Under 400	400 - 599	600 and over	319	480	764	60	81	129	23	32	49	674	1,056
: - dollars -														
Under 400	76	319	60	23	674									
400 - 599	61	480	81	32	1,056									
600 and over	48	764	129	49	1,698									

For example, farm number 18, which is a fluid milk farm, had 78 acres in crops and 14 animal units of livestock, and the labour earnings were \$779. Farm number 186, which was a condensery farm, had 56 acres in crops and 28 animal units; labour earnings were \$533. In contrast to these is farm number 69, where the operator shipped mainly to a cheese factory; the acreage in crops on this farm was 71 and there were 60 animal units of livestock; the earnings of the operator for his labour and management were \$4,419. This illustrates the necessity of an adequate size of business and shows that sizeable earnings can be obtained on cheese and cream farms where the price received for dairy products is generally lower than for the other two groups.

In the latter case, the farmer milked about 30 cows. Sales of milk amounted to \$5,800 for the year. He sold some cows and young stock and a considerable number of hogs, receiving \$4,900 for these livestock sales. Practically all of the work was handled by the operator and one full-time hired man. With a large size of business, the earnings of the operator were \$4,419. This is what was left over after all expenses had been paid and after a charge was made for the capital invested in the farm.

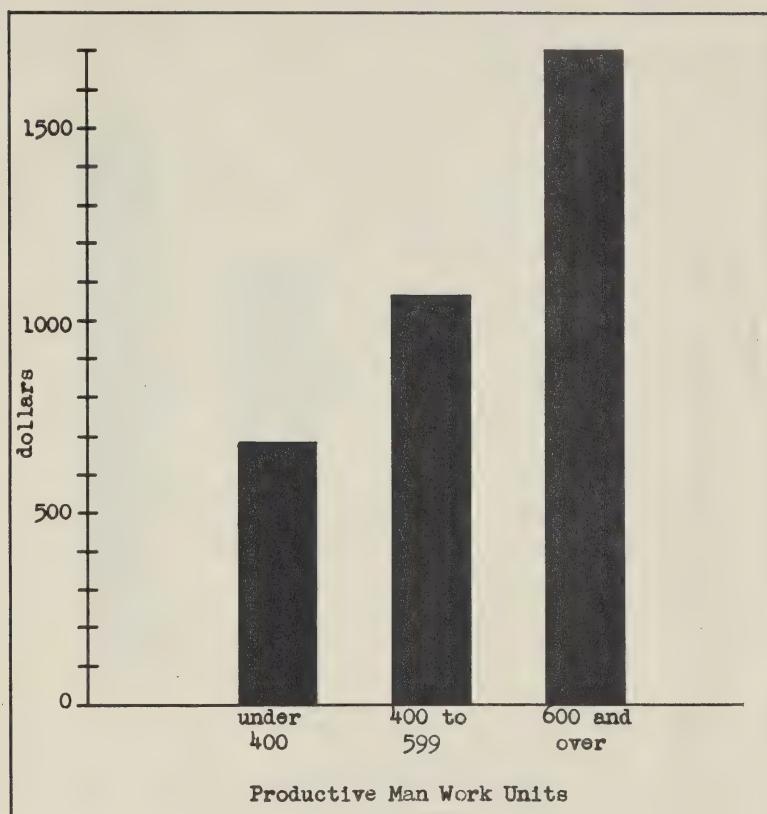


Figure 2. - Relation of Size of Business, as Measured by Productive Man Work Units per Farm, to Labour Earnings on 185 Dairy Farms in Eastern Ontario, 1947.

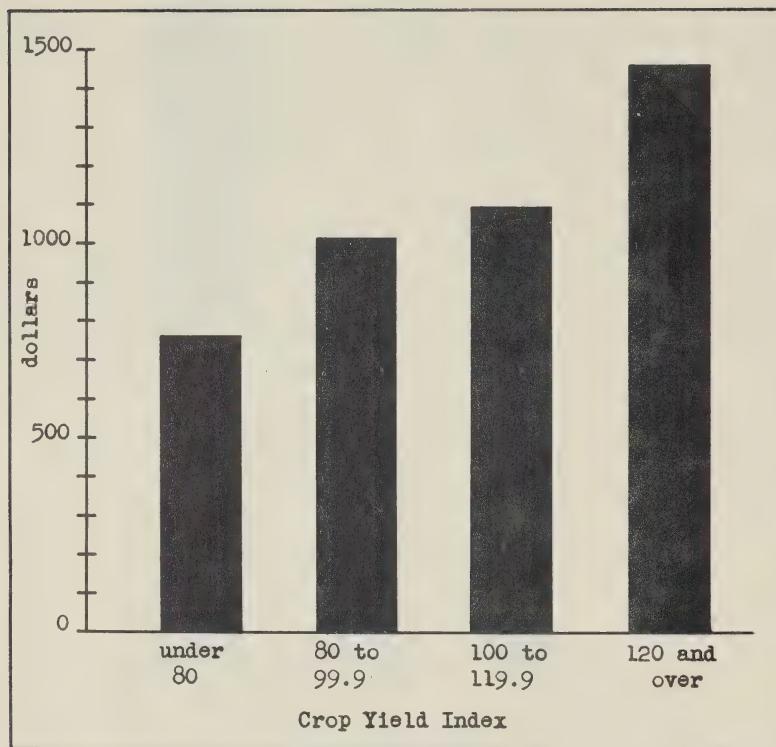


Figure 3. - Relation of Crop Yields, as Measured by Crop Yield Index, to Labour Earnings on 185 Dairy Farms in Eastern Ontario,
1947.

Even on a farm with a small acreage, earnings can be increased considerably by carrying on an intensive livestock program. Farm number 184, where the operator shipped to a condensery, had only 46 acres in crops and the total farm acreage was only 89. However, this farmer kept 30 animal units of livestock. He milked 15 cows, sold 33 hogs during the year and kept 400 hens. Sales of livestock and livestock products amounted to \$7,000. Expenses for feed were \$3,200; this farmer, with a limited acreage, kept most of his cropland in hay and bought concentrates. Labour costs were relatively low and the operator's labour earnings were \$2,629.

Crop Yields.— Good crop yields are important on any farm. Where dairying is important, as on the farms visited, greater yields will result in lower feed purchases and higher earnings. This is illustrated by Figure 3. Crop yields on the different farms are made comparable by the use of a crop yield index. A farm with average yields would have an index of 100.

Good crop yields are obtained by a well-planned rotation and proper use of manure and fertilizer. A well-planned rotation involves growing crops on the land most suitable for them and in a rotation where they will fit in best with the other crops that are grown. With livestock, manure can be applied where it is most needed. Fertilizer should be used to make up fertility deficiencies not otherwise provided for.

Rates of Livestock Production.— The importance of livestock, and more particularly of the dairy enterprise, on these farms has been emphasized. Because of this, the degree of efficiency attained in livestock production has a substantial effect on the earnings of the operator. Milk production per cow is used here as a measure of livestock efficiency because dairying was by far the most important part of the livestock enterprise. In Figure 4, it is shown that the farmers with the high-producing cows received higher earnings.

To obtain high production per cow it is important that close attention is paid to breeding and feeding. A purebred bull was kept, or the services of one were obtained, for most of the high-producing herds, while a greater proportion of the low-producing herds had grade bulls. Also, to obtain higher production per cow, it is necessary to pay particular attention to feeding.

Effective Use of Labour.— Since labour is one of the principal items of expense, earnings are closely related also to efficiency in the use of labour. There was considerable variation in labour efficiency on the farms visited and, as is illustrated by Figure 5, farms on which labour was efficiently used had greater earnings than those with a lower output of productive work per man.

The size of the farm business is of great importance in the efficient use of labour. On farms where there is a small acreage cropped and a small number of livestock, it is very hard to keep the necessary labour force fully employed on productive work. Larger farm businesses can be operated so as to use labour more efficiently. The combination of enterprises must also be such as to provide a good seasonal distribution of labour; and the layout of the fields and buildings and the planning of the work must provide for the effective use of labour.

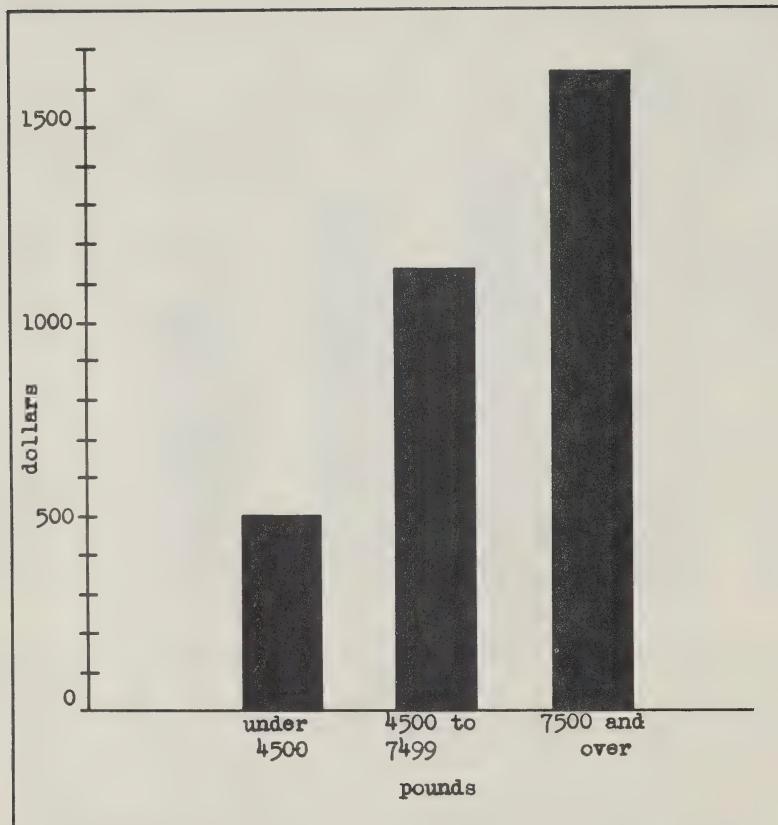


Figure 4. - Relation of Rates of Livestock Production, as Measured by Milk Production per Cow, to Labour Earnings on 185 Dairy Farms in Eastern Ontario, 1947.

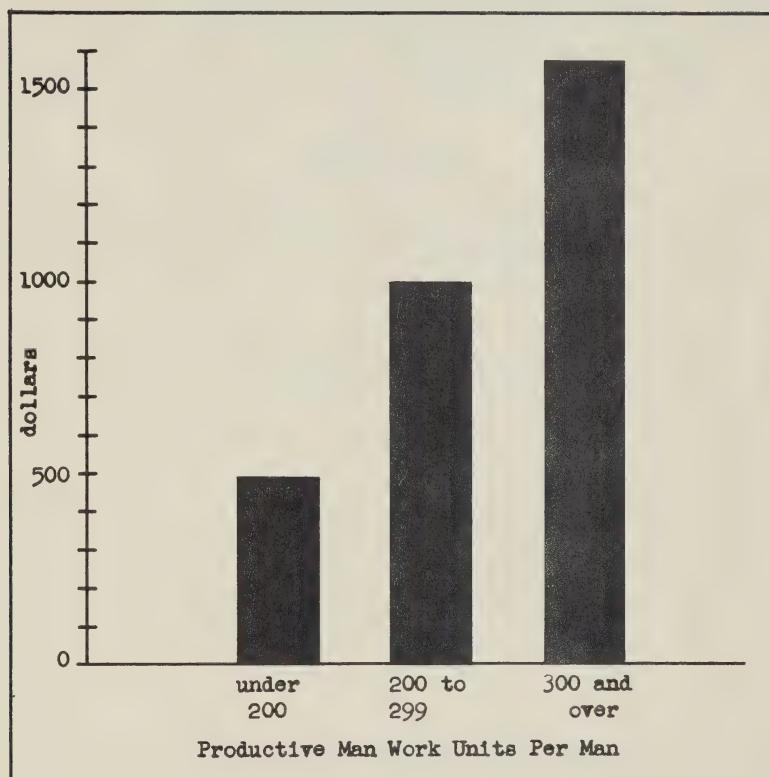


Figure 5. - Relation of Labour Efficiency, as Measured by Productive Man Work Units per Man, to Labour Earnings on 185 Dairy Farms in Eastern Ontario, 1947.

Use of Capital. - A fairly large capital investment is required in present-day farming. This capital must be put to good use; otherwise, farm earnings will not provide a reasonable return to the operator for his labour and management, in addition to a return on the capital invested.

The size of business is important in making adequate use of capital as is efficiency in crop and livestock production. Any proposed additions to capital should be thought over carefully. For example, a farmer who purchases a tractor must be able to increase his net returns enough to give him a satisfactory return on the extra investment as well as to provide for the depreciation, repair and maintenance of the tractor. To make this possible, it is quite likely that he will have to dispose of one or more horses as well as enlarge his business.

FARM PLANNING

All aspects of farming are inter-related and efficiency in the overall operation of the farm can best be attained by making use of a farm plan. Such a plan will usually be more useful when it is developed in a systematic manner. The following has proven to be an acceptable approach for a considerable number of farmers:

Step 1.- Make an inventory of the physical resources of the farm. - The easiest way to do this is to make a map of the farm. On this map could be shown soil types, the slope of the land, the degree of erosion, the present field layout and crops grown, and the location of the farmstead. It would also be desirable to show any other features which it would be necessary to consider in making a farm plan (such as creeks and gullies and the location of the water supply.) Other information that would be useful to supplement such a map would be the history of soil treatments, present soil tests, details about drainage problems and information about the condition of permanent pasture and woodland. Apart from this information on the physical aspects of the farm, it would be well to set down in writing the tenure and kind of lease if the farm is rented, the amount of labour available, the machinery and equipment owned and the various types and amounts of indebtedness.

Step 2.- Set up a long-time land use program for the farm. - Using the above information on the physical resources of the farm, it is possible to determine the best use to which the land can be put. Rotations should be established in terms of the type of crops to be grown; the choice between different small grains and forage crops can be made when consideration is being given to the livestock that are to be kept. It would be desirable to make up a map showing the farm under the new plan and the changes in layout of fields and arrangement of fences which may eventually be required. From this it should be possible to obtain some indication of the production of different crops and the amount of pasture which the farm can be expected to produce under the new plan.

Step 3.- Plan the livestock program for the farm. - With the information on the amounts and kinds of feed that can be expected, a plan can be worked out for the numbers and kinds of livestock to be kept. The numbers of

livestock should be sufficient to make good use of the roughage grown. Consideration must also be given to how much feed it is desirable to purchase; in this connection the market outlets for the products to be sold must be kept in mind. With a livestock plan decided on, the amounts of crops, livestock and livestock products which will normally be available for sale can be determined.

Step 4.- Plan the marketing program and make up a farm budget.— The monthly marketing of crops, livestock and livestock products can be planned and conservative estimates of expected prices can be made. These estimates might be based on average prices over the previous ten-year period, due regard being given to the current outlook for the market for these products. A similar procedure can be followed for estimating expenses under the new plan. From this information on estimated receipts and expenses, some idea of potential earnings can be obtained.

Before a final plan is decided upon, it will be necessary to consider several alternative combinations of livestock and crops from the standpoint of the earnings to be expected. For example, a budget may first be worked out with the only livestock being dairy cattle; then the probable effect on earnings of the addition of hogs can be determined.

Step 5.- Work out the changeover from the old to the new plan.— The carrying out of the new plan must be a gradual procedure. This can be best handled by setting up a rough map of the farm for each year indicating the changes that are intended to be made. The major expenditures should be estimated so that an idea of the cost of putting the new plan into effect will be obtained.

One farmer may not want to make his plan as detailed as the next but it is important to have some sort of plan. A plan should provide for the attainment of good crop yields, an adequate size of business, and a desirable arrangement of fields and buildings. This should result in effective use of labour and capital and in higher earnings.

Some of the farmers who were visited had well-developed farm plans. Farm number 10 is one where the operator plans his business in considerable detail, keeping regular accounts to do this. The farm consists of 162 acres of which 98 were cropped and 44 in rotation pasture in 1947. Of the cropland there were 44 acres in oats, 42 acres in hay and 12 in silage corn. During 1947, there were 50 animal units of livestock, with the dairy enterprise accounting for about 90 per cent. There were 36 cows, seven heifers, eight calves and one bull. The main source of income was from fluid milk sales. The size of business was 784 productive man work units compared with an average of 487 for the 185 farms visited. The crop yield index was 135 compared with 100 for the average with oats averaging 40 bushels to the acre and hay two tons per acre for one cut. Milk production per cow was 6,650 pounds compared with 5,840 pounds for the average; the cows were not purebred but the bull was. Labour efficiency, as measured by the number of productive man work units per man, was 324 compared with 261 for the average. Most of the labour was supplied by the father and son, the son receiving regular monthly wages; the son has since taken

over the farm. Resulting from above-average efficiency in the various phases of the farm business, this operator earned \$3,970 for his labour and management after providing for the capital invested in the farm and paying his son.

CHANGES IN FARM ORGANIZATION BETWEEN 1937 AND 1947

In previous sections, information is presented for 185 dairy farms in eastern Ontario. Of the 185 farms included in the 1947 study, 142 were also visited ten years previously at which time similar information pertaining to the farm business was obtained. The intervening ten-year period witnessed a great increase in the demand for the products of these farms. At times, labour and other supplies were in short supply. These and other factors resulted in adjustments being made in the organization of the farms visited. In general, dairy farms are fairly complex businesses compared to many other types of farms and are not likely to change rapidly. For example, a considerable amount of space is needed for housing the herd and, if a decision is made to enlarge the herd, it may involve a considerable building cost which may prevent making the change immediately.

Cropping Program.— The farms visited, being dairy farms, used their land to provide roughage for the herd and a certain amount of the small grains necessary to supplement the hay and silage. There is a physical limitation to the area on any farm that can be included in a rotation. Of this tillable acreage, the proportion in various crops or pasture may vary depending on economic conditions but would not be expected to change very greatly if there is no great change in the livestock kept.

In Table 11, information is presented on the crops grown in 1937 and 1947. The average acreage in crops was about the same in the two years. There was a shift from small grains to hay with the proportion in hay and fodder increasing from 49 to 57 per cent and that in small grains decreasing from 40 to 29 per cent. In each year eight per cent of the acreage cropped was in corn silage.

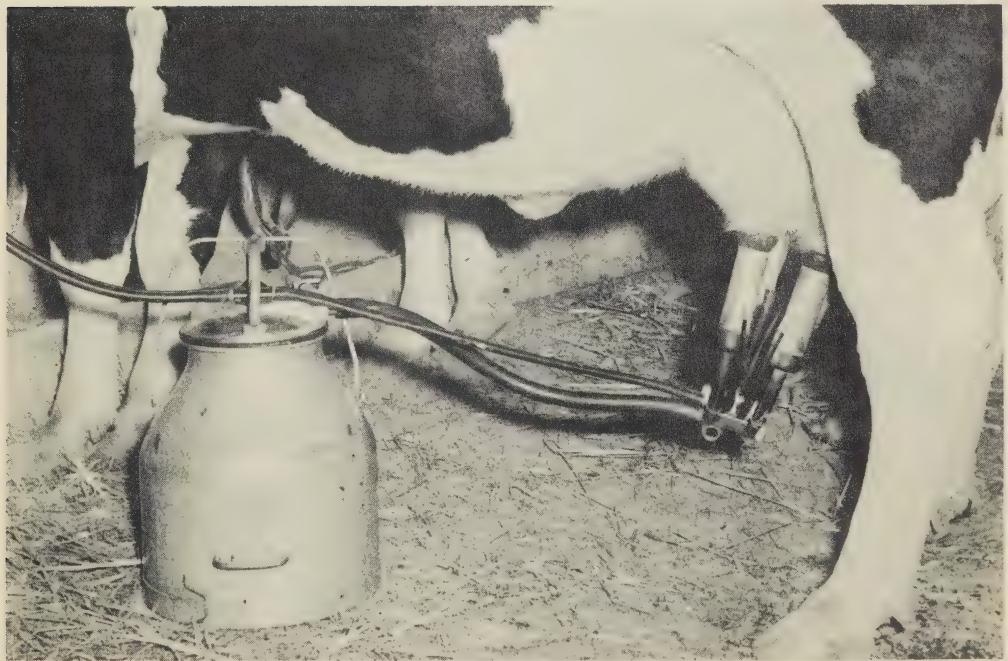
Table 11.— Average Acreages of Crops on 142 Dairy Farms in Eastern Ontario, 1937 and 1947.

	1937		1947	
	: Per cent of :		: Per cent of :	
	Acreage : Total Crops		Acreage : Total Crops	
Small Grains	35	40	25	29
Hay and Fodder	43	49	48	57
Corn Silage	7	8	7	8
Other Crops	2	3	5	6
Total Crops	87	100	85	100

Hay yields were considerably greater in 1947 but grain and silage yields were lower than in 1937. The reduction in grain yields, coupled with the



A Typical Eastern Ontario Farmstead.



The Number of Milking Machines on Eastern Ontario Farms Doubled Between 1937 and 1947.

decreased acreage of small grains, was an important factor in increased amounts of concentrates being bought in 1947.

The average acreage in rotation pasture in 1937 was 27 acres and in 1947, 24 acres. Permanent pasture, woods, waste land, and the farmstead made up the remainder of the total acreage and average 76 acres in 1937 and 93 acres in 1947. Thus, the total acreage operated averaged 190 acres in 1937 and 202 acres in 1947. Although there was not a very great change in the average acreage operated between 1937 and 1947, nearly two-thirds of the farms changed in the ten-year period. Fifty of the farms were larger and 34 were smaller in 1947 than in the earlier year; the remaining 58 contained the same acreage.

Livestock Program.— The dairy herd was the basis of the livestock enterprise on the farms visited. The importance of dairying is brought out in the information presented in Table 12 where the number of animal units is given for each type of livestock.

Table 12.— Livestock Program on 142 Dairy Farms in Eastern Ontario, 1937 and 1947.

Class of Livestock	:	1937	:	1947
	:	Average	:	Average
	:	— number of animal units —		
Horses		4.3		3.2
Cattle		27.0		26.9
Sheep and Lambs		.5		.3
Swine		2.9		1.8
Poultry		1.3		1.4
Fur Animals		.9		-
All Livestock		36.9		33.6

There was slightly less livestock on these farms in 1947 than ten years earlier as shown by a decrease from 36.9 to 33.6 in the total number of animal units. There were about three acres of cropland and rotation pasture per animal unit in each of the two years. In the latter year the numbers of horses, sheep, hogs and fur animals were lower than in 1937. The number of cattle was about the same and poultry numbers increased slightly.

The cattle enterprise on these farms, which was about the same size in each of the two years, changed considerably between 1937 and 1947. The average number of cows dropped from 19 in the earlier year to 18 in 1947. The average number of heifers and calves, however, increased from 12 to 16. Fewer calves were sold in the latter year; more than were needed for herd replacements were raised and sold at a producing age.

In Table 13, are shown the numbers of farms keeping the various classes of livestock in 1937 and 1947. Horses and cattle were kept on all of the farms in each year. Although horses were still kept on all of the farms in

1947, the average number per farm was lower and fewer colts were raised than in 1937. Most of the reduction in the average size of the livestock enterprise took place because fewer farmers kept sheep, swine and fur animals in 1947 than ten years earlier.

Table 13.- Numbers of Farms Reporting Different Classes of Livestock, Eastern Ontario, 1937 and 1947

Class of Livestock	Number Reporting	
	1937	1947
Number of Farms	142	142
Horses	142	142
Cattle	142	142
Sheep and Lambs	26	20
Swine	112	102
Poultry	138	136
Fur Animals	4	0

Because of the importance of dairy cattle on these farms, an indication of efficiency in livestock production can be obtained from the milk production per cow. The 1947 average of 5,860 pounds was slightly lower than the 1937 average of 6,050 pounds.

Capital Investment.- The value of real estate increased from an average value of \$7,679 per farm to \$10,667, an increase of 39 per cent. This was an increase from \$40 to \$53 per acre. This was due mainly to price changes and not to physical changes. The value of livestock, equipment, feed and supplies each more than doubled between 1937 and 1947 with the result that the total farm investment increased from \$11,515 to \$19,521. This was an increase of 70 per cent. In the case of livestock this was a result of increased values; the average value of cows on these farms for example, increased from \$56 to \$178. In the case of machinery and equipment the increase resulted from a combination of increased mechanization and increased values. In Table 14 information is provided on the average investment per farm in each of the main categories for 1937 and 1947.

Table 14.- Average Values of Inventory Items on 142 Dairy Farms in Eastern Ontario, 1937 and 1947.

Item	Average Value	
	1937	1947
	- dollars -	
Total Real Estate	7,679	10,667
Livestock	2,305	5,484
Equipment	1,424	3,132
Feed and Supplies	107	238
Total Investment	11,515	19,521



Twice as Many Eastern Ontario Farms Had Tractors in 1947 as in 1937. They Enabled the Speeding up of Field Operations but Resulted in Increased Cash Expenses.



The Number of Horses on Eastern Ontario Dairy Farms Has Declined but They Are Still Used Extensively For Such Operations as Hauling Hay and Grain and Binding Grain and Corn.

Size of Business.— As a result of shifts in the cropping program and a slight reduction in the average size of the livestock enterprise, the size of business, as measured by the number of productive man work units, was smaller in 1947 than ten years earlier. The average size was 503 productive man work units as compared with 565 in 1937. Since the acreage in crops was about the same in the two years, it is evident that these farms were operated less intensively in 1947.

Besides the crops and livestock there were miscellaneous enterprises such as cutting wood and harvesting maple syrup on the farms and machine custom work and trucking off the farms. These were of minor importance on the average and represented a slightly smaller proportion of the total farm business in 1947 than in 1937.

Receipts.— Total receipts increased from \$2,678 to \$6,463, which was an increase of 141 per cent. The largest part of total receipts was made up of cash receipts. The inventory increase made up the remainder. Details on the source of receipts are given in Table 15.

Table 15.— Receipts for 142 Dairy Farms in Eastern Ontario,
1937 and 1947.

	:	:	:			
	:	1937	:	1947	:	Increase from
	:	Average	:	Average	:	1937 to 1947
	:		:		- dollars -	- per cent -
Crop Sales		115		198		72
Livestock Sales		748		1,903		154
Livestock Product Sales		1,445		3,036		110
Miscellaneous Farm Receipts		95		142		49
Equipment Sales		14		56		300
Total Cash Receipts		2,417		5,335		121
Total Inventory Increase		261		1,128		332
Total Farm Receipts		2,678		6,463		141

Sales of livestock products represented the largest item among the cash receipts and increased from \$1,445 to \$3,036, or 110 per cent. The main source of these receipts was the sale of dairy products which increased from \$1,244 to \$2,631. This increase was due mainly to a general rise in the price of dairy products. The average price received for milk on the 142 farms increased from \$1.32 to \$2.74 per hundred pounds, an increase of 108 per cent. Farmers shipping to fluid milk markets received an average of \$3.25 per hundred pounds in 1947 as compared with \$1.64 in 1937. Prices received by those shipping to condenseries were \$2.52 and \$1.28 respectively for these years. In both of these cases the increase was 98 per cent. Prices received by farmers shipping to cheese factories increased by 113 per cent, from \$1.09 in 1937 to \$2.32 in 1947.

There were also shifts in the type of market outlets to which these farmers shipped their milk, with more shipping to fluid milk markets and condenseries in 1947 and fewer to cheese and cream outlets. In 1947, 35 shipped to fluid milk markets as compared with 29 in 1937. During the same period the number of those shipping to condenseries increased from 23 to 40. The number of cheese factory and creamery shippers, however, declined from 90 to 67.

Livestock sales, the next largest item in cash receipts, increased from \$748 to \$1,903, or 154 per cent. The strong demand from United States buyers for mature cows was an important factor in this increase. The numbers of livestock sold did not change very much and the increase was accounted for largely by increased prices. There were, however, slightly fewer sales of calves and more cows and heifers sold in 1947.

Crop sales were a small part of the total cash receipts in each of the two years, increasing from \$115 to \$198, an increase of 72 per cent. Sales of grain made up one-half of the total in 1937 but only one-third in 1947. Sales of hay and apples made up increased proportions of the total in 1947 as compared with 10 years earlier.

Expenses.— Expenses increased considerably during the ten-year period as can be seen from Table 16. The increase was from \$1,932 to \$5,298, or 174 per cent. In each year current and capital expenses made up the bulk of the total farm expenses while the remainder was made up of the decrease in inventory. Current expenses, which accounted for about two-thirds of the total, increased by 178 per cent, from \$1,313 to \$3,653. There was a considerable variation in the extent to which the various items increased. Taxes increased about 10 per cent; the cost of labour, other than that of the operator, approximately doubled; and expenditures for purchased feeds and fertilizer were approximately four times greater in 1947.

Table 16.— Expenses for 142 Dairy Farms in Eastern Ontario,
1937 and 1947.

	:	:	:
	: 1937	: 1947	: Increase from
	: Average	: Average	: 1937 to 1947
: - dollars - : - per cent -			
Purchased Feeds	311	1,547	397
Labour	485	914	88
Taxes	162	179	10
Fertilizer	8	46	475
Machinery Operating Costs	140	412	194
Other Current Expenses	207	555	168
Total Current Expenses	1,313	3,653	178
Total Capital Expenses	348	1,215	249
Total Inventory Decrease	271	430	59
Total Farm Expenses	1,932	5,298	174



The Baler Is Becoming a Commonly Used Method of Harvesting Hay in Eastern Ontario.



The Forage Harvester Is a Relatively New Machine in the Area. Here It Is Being Used to Chop Hay.

Capital expenses increased by 249 per cent, from \$348 to \$1,215. Livestock purchases were the largest item in each year and increased from \$158 in 1937 to \$501 in 1947. Purchases of machinery and equipment, also a large item, increased from \$100 to \$458. The remainder, made up of land purchases, new buildings and improvements, increased from an average of \$90 per farm to \$256.

Earnings.- Between 1937 and 1947 earnings increased considerably. Farm income increased 56 per cent, from an average of \$746 to \$1,165. Operator's labour earnings increased 64 per cent, from \$636 to \$1,040. In Table 17 the financial summary for the farms is provided for each of the two years.

Table 17.- Earnings for 142 Dairy Farms in Eastern Ontario, 1937 and 1947.

	: 1937	: 1947	: Income from
	: Average	: Average	: 1937 to 1947
		- dollars -	- per cent -
Total Farm Receipts	2,678	6,463	141
Total Farm Expenses	1,932	5,298	174
Farm Income	746	1,165	56
Interest on Investment	460	777	69
Labour Income	286	388	36
Total Perquisites a/	350	652	86
Labour Earnings	636	1,040	64

a/ This includes the value of products from the farm used in the home and a charge for the use of the house.

Labour Supply.- The average amount of labour used on these farms was the equivalent of 2.2 man years in 1937 and 1.9 man years in 1947. This represented a reduction of three and a half months and was accounted for by a reduction of about two months in hired labour and about a month and a half in family labour. The average amount of work per man, on the basis of productive man work units, increased from 255 to 261.

Mechanization.- There was a small increase in the amount of work per man. However, a considerable increase in mechanization occurred on these farms during the ten-year period. The average investment in machinery was \$1,424 in 1937 and \$3,132 in 1947; this represents a considerable increase in mechanization even when changes in value are taken into account. Of the 142 farms, 38 had tractors in 1937 and 93 in 1947. Information on milking machines was available for 67 farms; of these 22 had milking machines in 1937 and 46 had them in 1947.

While the increase in the number of tractors was accompanied by some decrease in the number of horses kept, the increase in mechanization did not result in any increase in the size of farm business or in the intensity of farming operations and the increase in labour efficiency was not great.

Even on the farms where tractors were bought between 1937 and 1947 there was very little increase in the acreage cropped or decrease in the amount of labour. Thus, from a purely financial point of view there is some doubt as to whether this increased mechanization was entirely justified. However, there is no doubt that the increase improved working conditions and enabled farmers to work shorter hours.

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